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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/502,384   | 01/10/2005  | Wei-Ping Huang       | P14404-US1          | 3676             |
| 27045  | 7590        | 02/23/2006           | EXAMINER            |                  |
| ERICSSON INC.<br>6300 LEGACY DRIVE<br>M/S EVR C11<br>PLANO, TX 75024 |             |                      | PETKOVSEK, DANIEL J |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2874                |                  |

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

|                              |   |                              |  |
|------------------------------|---|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/502,384                     | Applicant(s)<br>HUANG ET AL. |  |
|                              | Examiner <i>JP</i> 2/20/06<br>Daniel J. Petkovsek | Art Unit<br>2874             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on application filed January 10, 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 23, 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/23/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to the pre-amendment to the claims filed July 23, 2004. Claims 21-40 are pending.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

2. The prior art documents submitted by Applicant in the Information Disclosure Statements filed on July 23, 2004, have been considered and made of record (note attached copy of forms PTO-1449).

#### ***Drawings***

3. The drawings are objected to because Figure 3 fails to label concave mirror 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional

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replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The abstract of the disclosure is objected to because the abstract is listed in the corresponding PCT document. Please include a fresh copy of the abstract in reply to this office action. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 21-23, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Rivoallan et al. U.S.P. No. 4,802,729.

Rivoallan et al. U.S.P. No. 4,802,729 teaches (ABS, Fig. 2, column 3, line 4 through column 4, line 50) a device for fusion splicing end of two optical fibers to each other comprising: holders 18/20 that maintain and hold the optical fibers 8/10 in order to maintain the fibers in a splice position, a CO<sub>2</sub> laser 6 (see column 4, lines 49-50) emitting

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light to a splice position, and a concave mirror 14 having a parabolic curved surface in order to deflect the input light beam from the CO<sub>2</sub> laser 6 towards the splice position to converge at a focal region, the splice position located at a distance of the collimated light, which clearly, fully meets Applicant's claimed limitations.

Regarding claim 22, "relatively small" is per se a "relative" term, and no patentable weight will be given to this distance.

Regarding claim 23, off-axis mirrors are disclosed (see claim 3, etc.).

Regarding claim 25, the diameter of the laser is disclosed by Rivoallan et al. '729 as 2 mm.

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 24, and 26-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rivoallan et al. U.S.P. No. 4,802,729, as applied to claim 21 above, and further in view of DE 19722415 A1.

Rivoallan et al. U.S.P. No. 4,802,729 teaches (ABS, Fig. 2, column 3, line 4 through column 4, line 50) a device for fusion splicing end of two optical fibers to each other comprising: holders 18/20 that maintain and hold the optical fibers 8/10 in order to maintain the fibers in a splice position, a CO<sub>2</sub> laser 6 (see column 4, lines 49-50) emitting light to a splice position, and a concave mirror 14 having a parabolic curved surface in

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order to deflect the input light beam from the CO<sub>2</sub> laser 6 towards the splice position to converge at a focal region, the splice position located at a distance of the collimated light. Rivoallan et al. '729 does not explicitly teach using a pointing light source ( in order to properly measure and maintain alignment of the optical fiber ends during splicing configuration (claim 32-35, embodied in independent method claim 36). It is noted that method claim 36 does not include the concave mirror limitation of claim 21.

DE 19722415 A1 teaches (ABS) using a pilot light beam in order for positioning and alignment of optical components, in which the presence of absence of a reflected light from the pilot source would denote an error, and thus inform the computer that a change in optical positioning is necessary in order to maintain alignment.

Since Rivoallan et al. '729 and DE 19722415 A1 are both from the same field of endeavor, the purpose disclosed by DE 19722415 A1 would have been recognized in the pertinent art of Rivoallan et al. '729.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a laser pointing/piloting device in order to ensure a proper alignment of the optical components during fiber fusion (end-to-end) splicing. Ensuring proper alignment using feedback such as that from a pointing laser would have been recognized as a step that is not novel in the art, which precludes its patentability.

Regarding claims 24, 26-31, and 33-35, Rivoallan et al. '729 does not explicitly teach the number of ranges or additional optical components as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to find a number of workable ranges (wavelengths, power, angles, focal point distances) and

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specific optical components (damping device for the obvious purpose of absorbing unwanted light; laser diode for pointing element) that are well known in the art, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 U.S.P.Q. 233.

Regarding claims 37 and 40, see Rivoallan et al. '729 for parabolic shaped mirror.

Regarding claims 38 and 39, see Rivoallan et al. '729 (Fig. 2).

### *Conclusion*


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, with respect to the state of the art of optical fiber fusion splicers using concave/parabolic mirrors: PTO-892 form references A, C, and D.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Petkovsek whose telephone number is (571) 272-2355. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Daniel Petkovsek  
February 20, 2006

  
AKM ENAYET ULLAH  
PRIMARY EXAMINER